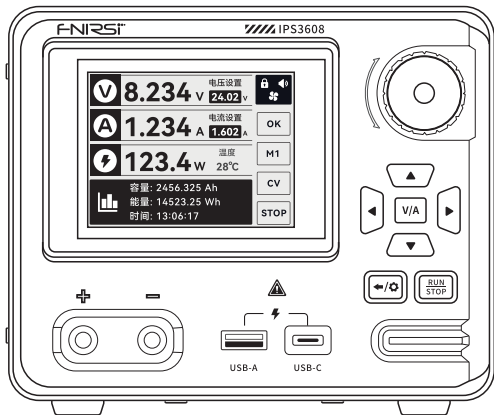


IPS3608

V1.0

AC-DC INTELLIGENT DIGITAL CONTROL POWER SUPPLY USER MANUAL



※Please read this instruction manual carefully before using the product and keep it properly.

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1. Safety Requirements

1.1 Environmental Requirements

! Precautions

- Avoid high temperature, open flame, corrosive gas, humid or dusty environment to prevent equipment failure.
- Before operation, check whether the power supply shell is damaged or deformed, whether the power supply interface is loose or damaged, and confirm whether the connecting cable is damaged or broken. If there are any problems, it will affect the normal operation of the power supply and even damage the equipment.
- Before use, please ensure that the heat dissipation port is not blocked by foreign objects to ensure that the equipment has good heat dissipation performance.
- Please read the operating manual of the power supply carefully before use and be familiar with the use of the equipment, which will help to operate the power supply correctly and efficiently, and timely discover and solve problems that occur during the use of the power supply to ensure the safe and stable operation of the power supply.
- During operation, when connecting the load, please turn off the power switch in advance to ensure that the power supply is in a power-off state. After the load is correctly connected, the power switch can be turned on.
- After turning on the power switch, please do not adjust the voltage or current to the maximum output. You should first adjust the output parameters to a lower value, and then gradually and slowly adjust the output voltage or current according to the actual needs of the load.
- When using the AC-DC intelligent digital control power supply, always pay attention to the operation of the load to avoid overload and short circuit.

- During the operation of the power supply, you must pay attention to the working status of the power supply, including whether the output voltage and current are stable, whether the power supply has abnormal noise, heat, etc.
- After use, adjust the output voltage and current of the power supply to zero through the operation panel, and then turn off the output of the power supply. Avoid damage to the load equipment and the power supply itself caused by the back electromotive force or surge current generated by sudden power cut-off.

⚠ Keep away from the following items:

- Heaters: Avoid overheating or fire risks.
- Water, chemicals: Solvents Leakage may damage the meter or cause a fire.
- Strong magnetic meters: Prevent magnetic fields from interfering with the normal operation of the meter.

♻ Waste Disposal

Do not discard used batteries or meters with household waste. Dispose of in accordance with national or local regulations.

2. Product Overview

2.1 Product Introduction

IPS3608 is an AC-DC intelligent digital control power supply that uses digital control technology to efficiently convert AC power into DC power. It is much more intelligent than traditional power supplies. It has the characteristics of convenient parameter adjustment, high-precision output, strong dynamic response, convenient digital control interface, and multiple electrical protections. It is suitable for various scenarios such as personal measurement power supply, industrial manufacturing, experimental equipment power supply, and medical power supply. It meets the diverse and high-precision power demand and provides stable DC power for electronic equipment, which is a key force in the modern science and technology industry.

2.2 Product operation

①**Encoder button:**In the main interface, the knob scrolls to switch pages left and right, and long press the middle button to clear data statistics. When entering the input box, rotate the knob to adjust the value. In the setting interface, the knob scrolls to select, and short press the middle button to enter/confirm the operation.

②**Button selection area:**press the up, down, left, right, V/A button.

③**Output power button:**output power switch RUN/STOP, lock button.

④**Power indicator:**indicates the power on status of the device.

⑤**Setting menu button:**enter and exit the setting menu, and it is the return button after entering the setting parameters.

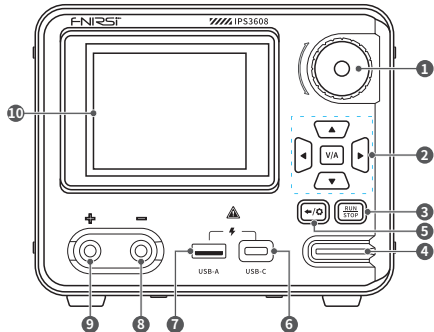
⑥**USB-C:**USB-C interface.

⑦**USB-A:**USB-A interface.

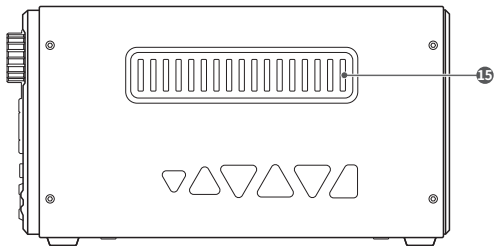
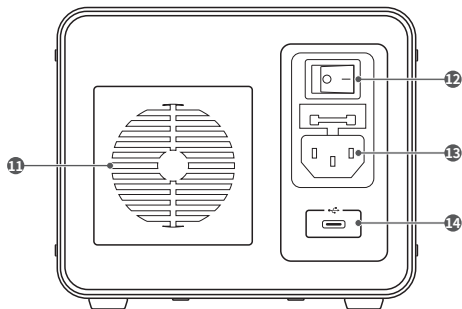
⑧**Power output negative terminal:**connected to the negative end of the load.

⑨**Power output positive terminal:**connected to the positive end of the load.

⑩**Display screen:**The device displays the output data area, and the screen can be rotated up and down at a certain angle for easy observation.

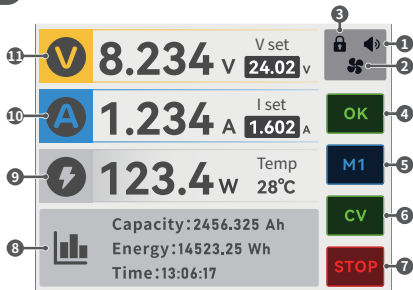


- ⑪ **Equipment heat dissipation outlet**
- ⑫ **Power switch**: turn on/off the device power.
- ⑬ **Equipment power cord interface**: Mains power input port.
- ⑭ **USB interface**: USB-C charging port.
- ⑮ **Heat dissipation outlet**: concave heat dissipation outlets are designed on the left and right sides of the device to improve the heat dissipation of the device and facilitate the device to be taken.



2.3 Main Page of AC-DC Control Power Supply

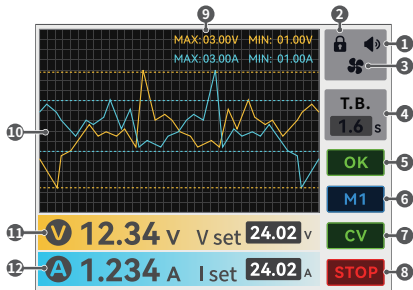
- ①**Volume On Indicator:**Indicates the volume on status of the device. If the icon is black, it is on.
- ②**Cooling Fan:**When the device reaches a certain temperature, the fan will automatically turn on for cooling. At this time, the icon will be black, and the fan off icon will be white.
- ③**Lock Indicator:**Long press the output power button, and the device will enter the lock function. At this moment, the icon is black, the page and parameters are locked, and the output power button is valid, and the other buttons are invalid.
- ④**OK key is valid:**Click the OK button to enter the voltage and current settings.
- ⑤**Data Group:**This area displays the data group currently used by the device. The device supports 6 data groups. Switching data groups can be switched by pressing the up and down buttons.
- ⑥**CV:**This area displays CV, indicating constant voltage.
- ⑦**RUN/STOP:**This area displays the power output of the device, which can be switched by pressing the output power button.
- ⑧**Data Statistics Area:**This area displays capacity, energy and device usage time.
- ⑨**Temperature Area:**This area displays output power and device temperature (cannot be adjusted manually), and the temperature unit is °C.
- ⑩**Current Setting Area:**This area displays output current and setting current parameters.
- ⑪**Voltage Setting Area:**This area displays output voltage and setting voltage parameters.



Button	Operation	Function Description
	Switch	Power on/off the device.
	Long Press	Long press to enter the lock mode. Press and hold again to exit the lock.
	Short Press	RUN/STOP
	Rotate	If the input box is not selected, rotate the knob to switch pages; rotate the knob to adjust the value in the home input box.
	Long Press	Long press the middle button to clear data statistics.
	Short Press	Switch data groups, and the up/down buttons increase/decrease the data group number respectively.
	Short Press	Enter the input box, and the left and right buttons switch the number of digits.
	Short Press	Enter the voltage setting input box, press again to enter the current setting, and press the third time to exit the input box. If no operation is performed for more than 15s, exit the input box.
	Short Press	Enter the setting menu, and press again to exit the menu interface.

2.4 VI interface page

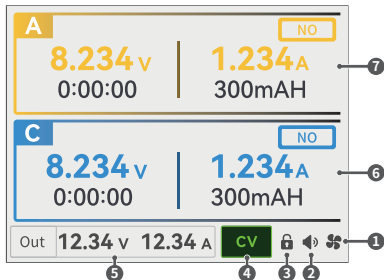
- ①**Volume on indication:** indicates the device volume on status, the icon is black, indicating it is on.
- ②**Lock indication:** Long press the output power button, the device enters the lock function. At this moment, the icon is black, the page and parameters are locked, except the output power button is valid, the other buttons are invalid.
- ③**Cooling fan:** When the device reaches a certain temperature, the fan will automatically turn on for cooling, and the icon will be black. When the fan is turned off, the icon will be white.
- ④**Time base:** Time base range 0.1s~0.5s.
- ⑤**OK button:** Click the OK button to enter the voltage and current settings.
- ⑥**Data group:** This area displays the data group currently used by the device. The device supports 6 data groups. The data group can be switched by the up and down buttons.
- ⑦**CV:** This area displays CV, indicating constant voltage.
- ⑧**RUN/STOP:** This area displays the output of the device power supply, which can be switched by the output power button.
- ⑨**MAX/MIN area:** This area displays the maximum and minimum values of the VI curve. Blue indicates current and yellow indicates voltage.
- ⑩**VI curve:** reflects the output of voltage and current, blue indicates current and yellow indicates voltage.
- ⑪**Voltage setting area:** This area displays the output voltage and setting voltage parameters.
- ⑫**Current setting area:** This area displays the output current and setting current parameters.



Button	Operation	Function Description
	Switch	Power on/off the device.
	Long Press	Long press to enter the lock mode. Press and hold again to exit the lock.
	Short Press	RUN/STOP
	Rotate	If the input box is not selected, rotate the knob to switch pages; rotate the knob to adjust the value in the home input box.
	Long Press	Long press the middle button to clear data statistics.
	Short Press	Switch data groups, and the up/down buttons increase/decrease the data group number respectively.
	Short Press	Use the left and right buttons to adjust the time base, the time base adjustment range: 0.1s~0.5s
	Short Press	Enter the voltage setting input box, press again to enter the current setting, and press the third time to exit the input box. If no operation is performed for more than 15s, exit the input box.
	Short Press	Enter the setting menu, and press again to exit the menu interface.

2.5 A/C output

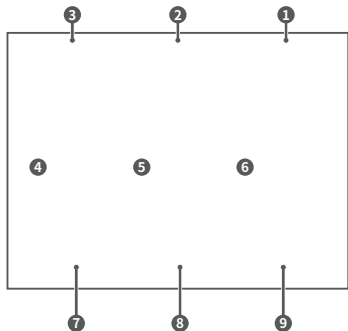
- ①**Volume on indication:**indicates the volume on status of the device. If the icon is black, it is turned on.
- ②**Cooling fan:**When the device reaches a certain temperature, the fan will be automatically turned on for cooling. At this time, the icon is black and the fan off icon is white.
- ③**Lock indication:**Long press the output power button and the device enters the lock function. At this moment, the icon is black and the page and parameters are locked. Except for the output power button, the other buttons are invalid.
- ④**CV:** This area displays CV, indicating constant voltage.
- ⑤**Output area:**This area displays the output voltage and current, and its output value is based on the set value.
- ⑥**Fast charge C display area:**This area displays the USB-C output voltage, current and opening status.
- ⑦**Fast charge A display area:** This area displays the USB-A output voltage, current and opening status.



Button	Operation	Function Description
	Switch	Power on/off the device.
	Long Press	Long press to enter the lock mode. Press and hold again to exit the lock.
	Short Press	RUN/STOP
	Rotate	If the input box is not selected, rotate the knob to switch pages.
	Short Press	Enter the setting menu, and press again to exit the menu interface.

2.6 Setting

- ①**About:**This area displays the device model, version number, and factory reset, etc.
- ②**System indication:**This area is the system setting in the setting menu. When the font turns blue, the current selection is the system setting.
- ③**Data group:**There are six data groups, and each group can set parameters such as voltage setting 0~36V, current setting 0~8.2A, overvoltage protection 0V~36.10V, overcurrent protection 0~8.2A, overpower protection 0W~295.2W, overtemperature protection 0~99°C, etc.
- ④**Language setting:**The device supports simplified Chinese and English.
- ⑤**Brightness adjustment:**The screen brightness adjustment range is 5%~100%, which can be quickly adjusted by the knob.
- ⑥**Volume:**The device volume adjustment range is 0%~100%, which can be quickly adjusted by the knob.
- ⑦**Metering switch:**Turn on/off device metering.
- ⑧**Device address:**The device address can be set in the range of 000~255.
- ⑨**Style switching:**The device supports two style modes: white and dark.



Button	Operation	Function Description
	Switch	Device power on/off
	Rotate	Uncheck the input box, rotate the knob to select the operation
	Short Press	Click to enter the setting option, click again to save and exit the input box
	Short Press	Exit the setting menu and enter the menu interface again
	Short Press	You can perform basic operations such as up, down, left, and right. Enter the input box and press the left and right buttons to select the bit number, and press the up and down buttons to set the parameters Note: In the first-level navigation, the cursor selects the data group/system/about, etc., and you can directly press the down button to enter the second-level navigation to select the relevant setting options

3. Technical Specifications

3.1 Model Parameters

Device name	AC-DC Intelligent Digital Control Power Supply Manual		
Device model	IPS3608	Screen material	2.8-inch color screen
Backlight	Adjustable backlight brightness	Language	中文, English
Product size	≈ 138×214×115mm	Product weight	≈ 1539g

3.2 Battery Parameters

Category	Parameter description	
Input	Voltage range	100-240VAC(50/60HZ)
Setting resolution	Voltage	0.01V
	Current	0.001A
Readback value accuracy	Output voltage	$\pm(0.3\%+3 \text{ bits})$
	Output current accuracy	$\pm(0.15\%+5 \text{ bits})$
Operating Environment	-10°C~40°C, 0%~75%RH	
Protection mechanism	● Overvoltage protection ● Overcurrent protection ● Overpower protection ● Overtemperature protection ● Undervoltage protection ● Short circuit protection ● Output reverse injection protection ● Input reverse connection protection	
Output	Voltage	DC 0~36V
	Current	0~8A
	Power	0~285W
Load regulation rate	$\pm(0.2\%+2 \text{ bits})$	

※**Accuracy calculation method**: one byte is the minimum resolution, such as 5V, the error is $\pm(5 \times 0.3\% + 3 \times 0.01)$, that is, $5 \pm 0.045\text{V}$

3.3 Fast charging parameters

Output terminal category	Fast charging protocol
USB-C	PD3.0
USB-A	HUAWEI FCP
	HUAWEI SCP
	AFC
	QC2.0
	QC3.0

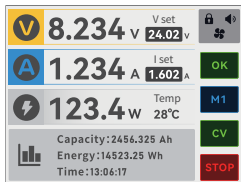
4. Operation Guide

4.1 Boot

- Slide the power switch on the back of the device to turn on the power, wait for the system to load, and enter the main interface of the AC-DC intelligent digital control power supply.

4.2 Language Settings

- Short press  on the main interface to enter the system menu, short press the selection button/scroll encoder to select system, short press **V/A** confirmation button/down button/encoder middle button to enter system settings, short press the selection button/scroll encoder to select language settings, then short press **V/A** confirmation button/encoder middle button to enter language settings, left and right buttons/scroll encoder to select Chinese and English, short press **V/A** confirmation button/encoder middle button to confirm.



DataSet	System	About
Language Setup	Brightness Control	Volume Control
EN	90%	40%
Metering Switch	Device Address	Style Switch
Open	001	Light



DataSet	System	About
Language Setup	Brightness Control	Volume Control
EN	90%	40%
Metering Switch	Device Address	Style Switch
Open	001	Light

4.3 DataSet

Data group adjustment:

- Short press /⚙️ on the main interface to enter the system menu, short press the selection button/scroll encoder to select the data group, short press the **V/A** confirmation button/down button/encoder middle button to enter the data group setting, short press the selection button/scroll encoder to select the corresponding data group number, and then short press the **V/A** confirmation button/encoder middle button to enter the selected data group setting. The data group can set voltage, current, overvoltage protection, overcurrent protection, overpower protection, and overtemperature protection. Select the setting option to be adjusted by pressing the button or knob, click the **V/A** confirmation button/encoder middle button to enter the input box to adjust the parameters, and then click /⚙️ to exit the setting.

4.4 Brightness adjustment

Brightness adjustment:

- Short press /⚙️ on the main interface to enter the system menu, short press the selection button/scroll encoder to select system, short press **V/A** confirmation button/down button/encoder middle button to enter system settings, short press the selection button/scroll encoder to select brightness adjustment, then short press **V/A** confirmation button/encoder middle button to enter brightness adjustment, left and right buttons/scroll encoder to adjust screen brightness, short press **V/A** confirmation button/encoder middle button to confirm.

Other function adjustment of General settings:

- The corresponding function selection and opening are roughly the same as the above operation navigation, and the step description is omitted.

5.Quick Start

5.1 Rapid measurement

- Turn on the AC-DC Intelligent Digital Control Power Supply. After the device is turned on, enter the main interface and wait for the next operation.
- If the data group parameters are set, you can directly use the up and down buttons to quickly switch the required data group. If the data group is not set, the user can view the button operation below and learn how to set the data group.
 - Press the button to set the output parameters, click the **V/A** button to set the voltage and current, enter the corresponding input box, and adjust the parameters by pressing the button and encoder (roller). Note that the setting parameters should not exceed the overvoltage protection to prevent the output from being over-voltage protection limit.
 - Press the setting menu button and select to enter the data group to set the data group parameters. The data group can be set: voltage setting, current setting, overvoltage protection, overcurrent protection, overpower protection, overtemperature protection, etc.
- After the parameters are set, it is necessary to confirm that the set power parameters are within the safety range of the load equipment according to the load power demand. After confirming the safety of the parameter settings, the **RUN/STOP** button can be turned on to output the power.
- Observe the device screen to see if the output voltage and current data are normal. You can rotate the knob to switch to other interfaces and observe the changes in the output power supply on the VI interface.
- After use, it is recommended to adjust the set voltage and current to the minimum and then turn off **RUN/STOP**.

5.2 Upgrade firmware

- Turn off the device, press and hold the upper button, then turn on the device power. At this time, the device will pop up the firmware upgrade interface. Insert the MICRO USB data cable to connect the computer and enter the firmware update interface to upgrade the firmware.
- After entering the firmware update, the computer recognizes the USB flash drive and drags the firmware file directly to the USB flash drive.
- In the firmware update interface, short press the **RUN/STOP** power output button to turn on the device.

6.Troubleshooting

6.1 Unable to boot

●Possible reasons:

- The power cord is damaged.
- The power interface is loose or damaged.

●Solutions:

- Replace the power cord. Do not use a damaged power cord.
- Disconnect the power supply of the device and leave it for a while to prevent residual power. Then turn on the device to check the cause of the loose interface. If the structure is loose, try to strengthen the device structure. If this operation does not work, it is recommended to repair or replace the interface.

6.2 Screen does not display

●Possible causes:

- The screen backlight is off.
- Display hardware malfunction.
- System software abnormality

●Solution:

- Check and adjust the backlight brightness settings according to the manual.
- Try restarting the device to ensure the system returns to normal.
- If the screen still does not display properly, the display may need to be repaired or replaced.

7.Maintenance

7.1 Cleaning the outside of the device

●Frequency: Clean once every 3-6 months, depending on the use environment.

●Method: First, disconnect the power supply from the mains and ensure that the capacitor inside the power supply has been discharged to avoid electric shock accidents. Use a clean damp cloth or brush to clean the power supply housing to remove dust, dirt and other impurities on the surface of the housing. Avoid using chemical cleaners, especially those containing alcohol or strong acids or alkalis, to avoid damaging the housing or screen.

●Precautions:

- Clean the dust around the device and buttons regularly to keep the device in good condition.
- Ensure that no liquid, dust or debris enters the device interface.

7.2 Storage and Carrying

- Storage environment: The device should be stored in a dry and ventilated environment, avoiding high temperature, high humidity or drastic temperature changes. Avoid placing it in direct sunlight
- Carrying: Be careful to avoid falling when using, especially during carrying. It is recommended to use a protective case or a special bag for carrying.

7.3 Software Update

- Regularly check whether the device has new firmware upgrades. The latest firmware can fix known bugs and improve device performance.
- When updating, make sure the operation steps are correct, use the officially released firmware files, and avoid power outages or other interference.

7.4 Restore factory settings

- If the device is abnormal or does not work properly, try to restore the factory settings. After restoring the settings, the device will clear all custom configurations and return to the initial state.
- For methods to restore factory settings, please refer to the user manual or contact the manufacturer's customer service.

8.Contact Us

Any FNIRSI users who contact us with questions will receive our promise of a satisfactory solution, plus an extra 6-month warranty as a token of our appreciation for your support! By the way, we have created an exciting community, and we welcome you to contact FNIRSI staff to join.

9. Warranty Information

※**This page is the basic warranty card. Please keep it.**

Thank you for choosing our company's products. The warranty period of this product starts from the date of sale. During the product warranty period, if the product is installed and used in accordance with the product manual and used in normal environment and conditions, and the fault is caused by defects in the original materials and processing, you can enjoy free repair services according to the content of this warranty clause. Please keep this warranty card properly as a warranty certificate. No reissue will be issued if it is lost.

The following situations will incur paid repair services

1. Unable to present the original valid warranty card.
2. Damage caused by improper installation not meeting product requirements, standards, or relevant specifications.
3. Damage caused by accessories in the installation environment not meeting product requirements, standards, or relevant specifications.
4. Damage caused by improper use, improper storage, unauthorized disassembly, or unauthorized repairs by the user.
5. Expiration of the warranty period.